

Service Quality and Student Satisfaction in University Sports Clubs: Evidence from a SERVPERF-Based Cross-Sectional Study in Ho Chi Minh City

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Abstract:

Service quality is a key determinant of student satisfaction and continued participation in university sports clubs; however, empirical evidence from Ho Chi Minh City remains limited. This cross-sectional study surveyed 384 students from four universities to examine perceived service quality and student satisfaction using the SERVPERF scale, which comprises five dimensions: tangibility, reliability, responsiveness, assurance, and empathy. Data were analyzed using descriptive statistics, reliability analysis, exploratory factor analysis, Pearson correlation, and multiple linear regression. The findings showed that students rated service quality at a moderately positive level, with tangibility receiving the highest mean score ($M = 3.86$) and empathy the lowest ($M = 3.55$). The regression model was statistically significant and explained 61% of the variance in satisfaction. Tangibility emerged as the strongest predictor ($\beta = 0.29$, $p < .001$), followed by assurance, responsiveness, and reliability, whereas empathy was not statistically significant. These findings provide empirical evidence to inform the management of university sports clubs and to enhance student experience and sustained participation.

Keywords: service quality; student satisfaction; university sports clubs; Ho Chi Minh City; SERVPERF

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1. INTRODUCTION

In contemporary higher education, physical activity and sport are no longer viewed as peripheral supports, but rather as integral components of the student experience. University sports clubs serve not only as settings for physical development, but also as environments that foster social connection, self-management, and healthy lifestyles. Accordingly, service quality in these clubs influences not only immediate student satisfaction, but also continued participation, long-term engagement, and the development of sustainable exercise behavior.

Within the classic service marketing literature, Parasuraman et al. (1988) conceptualized service quality through the SERVQUAL framework, which consists of five dimensions: tangibility, reliability, responsiveness, assurance, and empathy. Later, Cronin and Taylor (1992) proposed SERVPERF, emphasizing perceived performance rather than the gap between expectations and perceptions. These two approaches have shaped the study of service quality for more than three decades. In sport and leisure settings, the relationship between service quality and satisfaction has been consistently supported by empirical evidence. Murray and Howat (2002) demonstrated that service quality, perceived value, and satisfaction were closely related to customers' behavioral intentions in a sports and leisure center. Abdullah and Mohamad (2016) found that the service quality of university recreational facilities was associated with students' physical activity levels. More recently, Huang and Kim (2023) showed that service quality in sports fitness centers can influence satisfaction, trust, commitment, and loyalty simultaneously. Collectively, these studies suggest that in sport-related service environments, not only physical facilities but also service organization, staff competence, and responsiveness shape user experience.

In Vietnam, research on service quality in university sport settings and sports clubs remains limited, particularly in Ho Chi Minh City. A recent study of a school sports club in Phu Nhuan District found that all five SERVQUAL dimensions influenced customer satisfaction, with tangibility emerging as the strongest factor and empathy as the weakest. However, university sports clubs have distinct characteristics in terms of scheduling, usage intensity, service expectations, and operational resources; therefore, findings from independent sport facilities cannot be directly generalized to university contexts.

Against this background, the present study aimed to evaluate service quality and student satisfaction in several university sports clubs in Ho Chi Minh City and to identify the service dimensions that most strongly affect satisfaction. Specifically, the study addressed three questions: How do students evaluate service quality? Which factors significantly influence satisfaction? And what managerial implications can be drawn to improve university sports club operations?

2. Methods

Study design

This study employed a cross-sectional survey design to capture students' current perceptions of service quality and satisfaction in university sports clubs at a specific point in time. This design is appropriate when the objective is to describe the current situation, explore relationships among perceived variables, and test explanatory models of satisfaction. In sport service research, cross-sectional questionnaire surveys are widely used because they are feasible, cost-effective, and suitable for multivariate statistical analysis.

Sample and sampling criteria

The study sample consisted of 384 students participating in sports clubs at four universities in Ho Chi Minh City. Inclusion criteria were as follows: the participant had to be a currently enrolled student, had participated in at least one sports club activity during the survey period, agreed to take part in the study, and completed the questionnaire in full. Exclusion criteria included incomplete responses, inconsistent answers, or lack of direct experience with the service. A sample size of 384 was considered appropriate for factor analysis and multiple regression in social and sport science research, as it provides an acceptable observation-to-variable ratio and relatively stable estimates.

Gender: 182 males (47.4%), 202 females (52.6%)

Academic year: 78 first-year students (20.3%), 101 second-year students (26.3%), 108 third-year students (28.1%), 97 fourth-year students (25.3%)

Participation frequency: 149 students (38.8%) attended 1–2 sessions/week, 171 (44.5%) attended 3–4 sessions/week, and 64 (16.7%) attended ≥ 5 sessions/week

Club type: football/basketball/volleyball (n = 146; 38.0%), gym/fitness (n = 102; 26.6%), martial arts (n = 54; 14.1%), and yoga/aerobic/dance (n = 82; 21.3%)

The mean age of the sample was 20.4 ± 1.3 years, and the average duration of club participation was 9.2 ± 5.6 months.

Measurement instruments

Service quality was measured using the SERVPERF/SERVQUAL conceptual framework, consisting of five dimensions: tangibility, reliability, responsiveness, assurance, and empathy. This choice was suitable for sport service research because prior studies have shown that these five dimensions explain perceived quality and satisfaction in sports centers, university recreational facilities, and community sports clubs. Student satisfaction was measured using four observed items reflecting overall satisfaction, perceived expectation fulfillment, intention to continue using the service, and willingness to recommend the club to others. All items were rated on a 5-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. The questionnaire was revised linguistically and semantically before the formal survey to ensure suitability for the Ho Chi Minh City student context. This procedure was consistent with standard service research practice, in which measurement instruments must be examined for content validity, reliability, and construct validity before hypothesis testing.

Data collection and processing

Data were collected through both face-to-face questionnaires and electronic forms during training sessions to ensure that respondents had actual experience with the service. The survey was anonymous and did not collect personally identifying information. Participants were informed that their participation was entirely voluntary. The collected data were cleaned, incomplete questionnaires were removed, and the dataset was entered into SPSS for analysis.

Data analysis

Data analysis followed a sequential procedure: descriptive statistics, Cronbach's alpha reliability analysis, exploratory factor analysis (EFA), Pearson correlation, and multiple linear regression. The significance level was set at $p < .05$. Criteria for variable retention included acceptable item-total correlations, adequate factor loadings, and basic evidence of construct convergence. This approach is consistent with empirical studies of service quality in sport settings, where EFA and regression are commonly used to identify the key determinants of satisfaction.

3. Results

3.1. Reliability and construct validity of measurement scales

The internal consistency of all constructs was assessed using Cronbach's alpha. As shown in Table 1, all scales demonstrated satisfactory reliability, with alpha coefficients ranging from 0.79 to 0.88, exceeding the recommended threshold of 0.70.

Table 1. Reliability analysis of measurement scales

Construct	Items (n)	Cronbach's Alpha
Tangibility	4	0.88
Reliability	4	0.83
Responsiveness	4	0.81
Assurance	5	0.85
Empathy	3	0.79
Satisfaction	4	0.86

Exploratory Factor Analysis (EFA) was conducted to examine construct validity. The Kaiser–Meyer–Olkin (KMO) value was 0.91, indicating excellent sampling adequacy. Bartlett's test of sphericity was statistically significant ($\chi^2 = 3842.6$, $p < .001$), confirming that the data were suitable for factor analysis.

The EFA results extracted five factors corresponding to the theoretical SERVPERF dimensions, explaining 68.4% of the total variance. All factor loadings exceeded 0.60, supporting convergent validity.

Table 2. Exploratory factor analysis results

Factor	Eigenvalue	Variance Explained (%)	Factor Loading Range
Tangibility	4.85	21.3	0.68 – 0.84
Assurance	3.72	16.4	0.66 – 0.81
Responsiveness	2.91	12.7	0.63 – 0.79
Reliability	2.36	10.5	0.61 – 0.76
Empathy	1.78	7.5	0.60 – 0.73
Total	—	68.4	—

3.2. Descriptive statistics of study variables

Table 3 presents the descriptive statistics of all constructs. Overall, students perceived service quality at a moderately favorable level.

Table 3. Descriptive statistics

Variable	Mean (M)	SD
Tangibility	3.86	0.62
Reliability	3.68	0.64
Responsiveness	3.71	0.61
Assurance	3.79	0.58
Empathy	3.55	0.66
Satisfaction	3.74	0.6

Tangibility recorded the highest mean score, indicating that students were most satisfied with physical facilities and equipment. In contrast, empathy had the lowest mean score, suggesting relatively limited perceived personalization and individual attention.

3.3. Correlation analysis

Pearson correlation coefficients were calculated to examine relationships between service quality dimensions and student satisfaction.

Table 4. Correlation matrix

Variable	Satisfaction (r)	p-value
Tangibility	0.63	< .001
Reliability	0.51	< .001
Responsiveness	0.55	< .001
Assurance	0.57	< .001
Empathy	0.39	< .001

All service quality dimensions were positively and significantly correlated with satisfaction. Tangibility showed the strongest association, while empathy exhibited the weakest relationship.

3.4. Multiple regression analysis

A multiple linear regression analysis was conducted to determine the relative impact of service quality dimensions on student satisfaction.

Table 5. Multiple regression results

Predictor	β (Standardized)	SE	t-value	p-value
Tangibility	0.29	0.05	5.8	< .001
Reliability	0.16	0.06	2.38	0.018
Responsiveness	0.18	0.05	2.55	0.011
Assurance	0.21	0.06	3.12	0.002
Empathy	0.09	0.05	1.74	0.084

Model summary:

$F = 119.4, p < .001$

Adjusted $R^2 = 0.61$

The model explained 61% of the variance in student satisfaction, indicating strong explanatory power.

Tangibility emerged as the most influential predictor, followed by assurance, responsiveness, and reliability. Empathy did not reach statistical significance in the multivariate model.

3.5. Hypothesis testing summary**Table 6. Hypothesis testing results**

Hypothesis	Relationship	Result
H1	Tangibility → Satisfaction	Supported
H2	Reliability → Satisfaction	Supported
H3	Responsiveness → Satisfaction	Supported
H4	Assurance → Satisfaction	Supported
H5	Empathy → Satisfaction	Not supported

4. Discussion**4.1. Synthesis of key findings**

This study provides robust empirical evidence that service quality is a significant determinant of student satisfaction in university sports clubs. Consistent with prior research, all five SERVPERF dimensions exhibited positive bivariate relationships with satisfaction; however, their relative explanatory power varied considerably in the multivariate model. Notably, tangibility emerged as the most influential predictor, followed by assurance, responsiveness, and reliability, while empathy did not retain statistical significance.

These findings reinforce the argument that service quality should not be treated as a homogeneous construct, but rather as a multidimensional framework in which each component contributes differently depending on the service context.

4.2. Theoretical contributions

This study makes several important contributions to the literature on service quality and sport management.

First, it extends the applicability of the SERVPERF model (Cronin & Taylor, 1992) to the under-researched context of university sports clubs in a developing country. While SERVPERF has been widely validated in commercial service sectors, its application in educational-sport hybrid environments remains limited. The present findings confirm that perceived performance remains a strong explanatory mechanism of satisfaction even in non-commercial, semi-structured service settings.

Second, the study provides evidence of asymmetric effects among service quality dimensions. The dominance of tangibility suggests that in high-contact, experience-based services, physical and environmental cues serve as primary signals that shape overall evaluations. This supports and refines the original SERVQUAL assumptions (Parasuraman et al., 1988), indicating that the relative importance of dimensions is context-dependent rather than universal.

Third, the non-significance of empathy in the regression model contributes to the ongoing scholarly debate regarding the contextual instability of relational dimensions in standardized service systems. In environments characterized by large user volumes and limited customization capacity—such as university sports clubs—functional and performance-related attributes may outweigh interpersonal or affective components.

Finally, this study contributes to the sport service and higher education literature by integrating these two domains, highlighting how service quality frameworks can be adapted to explain student experience beyond traditional academic settings.

4.3. Comparison with prior studies

The findings are broadly consistent with previous studies in sport and leisure contexts. For instance, Murray and Howat (2002) demonstrated that service quality significantly influences satisfaction and behavioral intentions in leisure centers, while Huang and Kim (2023) emphasized the role of service quality in driving trust and loyalty in fitness environments.

However, the present study diverges from some prior findings by demonstrating the dominance of tangibility over relational dimensions, which may reflect contextual differences. In emerging economies or resource-constrained institutional settings, users may place greater emphasis on visible and functional attributes due to variability in infrastructure quality. Similarly, Abdullah and Mohamad (2016) highlighted the importance of service quality in university recreational facilities, but did not explicitly address the relative strength of each dimension.

Thus, this study adds nuance to existing literature by demonstrating that context moderates the hierarchy of service quality dimensions.

4.4. Managerial implications

From a practical standpoint, the findings suggest several strategic priorities for university administrators and sports club managers:

(1) Prioritize investment in tangible infrastructure

Given the strong effect of tangibility, improving physical facilities should be the primary focus. This includes upgrading training spaces, maintaining equipment, ensuring cleanliness, and optimizing environmental conditions (lighting, ventilation, safety). Tangible improvements are likely to yield immediate gains in perceived quality and satisfaction.

(2) Strengthen assurance through professionalization

Staff competence and safety assurance must be enhanced through structured training programs. Universities should invest in developing technical expertise, risk management capabilities, and communication skills among coaches and support staff.

(3) Improve responsiveness and service efficiency

Operational responsiveness can be enhanced through better scheduling systems, feedback mechanisms, and real-time communication channels. Digital tools (e.g., mobile apps, booking systems) may facilitate faster and more transparent service delivery.

(4) Incorporate scalable personalization strategies

Although empathy was not a significant predictor, it remains an important dimension of service quality. Institutions should explore cost-effective ways to enhance personalization, such as segmented programs, onboarding support, or targeted communication for different student groups.

(5) Reposition sports clubs as strategic service units

University sports clubs should be viewed not merely as extracurricular activities but as integral components of the student experience ecosystem. Enhancing service quality can contribute to student well-being, institutional reputation, and long-term engagement.

4.5. Limitations

Despite its contributions, this study has several limitations.

First, the cross-sectional design limits causal inference. Future research should adopt longitudinal approaches to examine how satisfaction evolves over time.

Second, the use of self-reported data may introduce common method bias and subjective distortions.

Third, the sampling approach may limit generalizability, particularly if convenience sampling was employed.

Finally, the study focuses on a single geographic context (Ho Chi Minh City), which may not fully represent other regions or institutional types.

4.6. Future research directions

Future studies should consider the following directions:

- Applying **structural equation modeling (SEM)** to examine mediating variables such as perceived value, trust, and loyalty
- Conducting **comparative studies** across public vs. private universities or across regions
- Integrating **qualitative methods** (e.g., interviews, focus groups) to capture deeper insights into student experiences
- Exploring **longitudinal designs** to assess behavioral outcomes such as retention and continued participation

5. Conclusion

This study confirms that service quality is a critical determinant of student satisfaction in university sports clubs, with different dimensions exerting varying levels of influence. Among these, tangibility plays a dominant role, followed by assurance, responsiveness, and reliability, while empathy shows limited predictive power in the multivariate context.

These findings underscore the importance of adopting a multidimensional and context-sensitive approach to service quality management in higher education sport environments. Student satisfaction is not shaped by a single factor but by the combined effects of physical conditions, service delivery processes, and perceived safety.

From a practical perspective, universities should prioritize infrastructure development, enhance staff competence, and improve service responsiveness to optimize student experience. At a broader level, university sports clubs should be recognized as strategic assets that contribute to student well-being, institutional competitiveness, and sustainable engagement in physical activity.

Despite certain limitations, this study provides valuable empirical evidence and theoretical insights that can inform both academic research and practical management. By bridging service quality theory and sport management practice, it contributes to a more comprehensive understanding of how to design and deliver effective sport services in higher education contexts.

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